

REMARKS/ARGUMENTS

Information Disclosure Statement Review by Examiner

The Examiner has not indicated whether or not he has considered the Information Disclosure Statement (IDS), whose receipt on February 26, 2002 was acknowledged via the return of postcard enclosed with the IDS. Applicants request the Examiner to affix his initials next to the citations in FORM PTO-1449. A copy of the already submitted FORM PTO-1449 is attached.

Amendments to the Specification

The amendments to the specification correct grammatical errors and inconsistency in reference numerals between the figures and the description.

Claims

The Examiner has rejected claims 1-3, 7-10, 17, 18-21, 24-27, 34, 35-38, 41-44, and 51 under 35 U.S.C. 102(e) as being anticipated by Fiske (US 6,324,692). Furthermore, the Examiner has rejected claims 4-6, 21-23 and 38-40 under 35 U.S.C. 103(a) as being unpatentable over Fiske in view of Narayanaswamy (US 6,275,931). Additionally, the Examiner has rejected claims 11-16, 28-33, and 45-50 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman (US 6,564,371). Applicants traverse the rejections of claims 1-51.

Applicants have also added 12 new dependent claims numbered 52-63 and corrected minor grammatical errors in certain claims.

Independent claims 1, 18, 35

Independent claim 1 is a computer implemented method for selecting a code image during a reboot routine, comprising:

maintaining multiple code images in a memory device;

executing a first operation routine;
incrementing a first counter if the first operation routine succeeds;
executing a second operation routine;
incrementing a second counter if the second operation routine succeeds; and
using the first and second counters to select one of the code images from the memory device to execute.

The Examiner has rejected independent claim 1 under 35 USC 102(e) as being anticipated by Fiske.

The claims require operations to be performed during a reboot routine. The cited Fiske (FIG. 2, col. 3, line 55 - col. 4, line 39) discusses performing operations after completing the reboot routine. For example, col. 4, line 13-14 of the cited Fisk discusses that "once the processor is rebooted, a reboot driver is triggered." The cited Fisk discusses (Fiske: col. 4, lines 15-18) that the reboot driver is an external application driver which is part of the operating system which functions in the operating system space.

Nowhere does the cited Fisk teach or disclose that operations such as incrementing the first and second counters, executing the first and second operation routines are performed during reboot as required by the claims. In contrast, the cited Fisk discusses that operations are performed after the reboot.

The counters in the cited Fisk are incremented after reboot, whereas the claims require incrementing the first and second counter during reboot. Additionally, the operations in the cited Fisk are performed by the reboot driver after reboot and not during reboot as required by the claims.

For the above reasons, claims 1, 18, 35 are patentable over the cited Fiske because the cited combination does not teach or disclose all the claim limitations.

Claims 2-17, 19-34, 36-51

The Examiner has also rejected pending claims 2-17, 19-34, 36-51 that depend on the pending independent claims 1, 18, and 35 respectively. Applicants submit that these claims are patentable over the cited art because they depend from claims 1, 18, and 35 respectively which are patentable over the cited art for the reason discussed above, and because the combination of the limitations in the dependent claims 2-17, 19-34, 36-51 and the base and intervening claims from which they depend provide further grounds of distinction over the cited art

Claim 2, 19, 36

Claim 2 depends on claim 1, and further comprises:

designating one code image as non-operational if the first counter is a first value and the second counter is a second value, wherein one other code image not designated as non-operational is selected to execute.

The Examiner has rejected claim 2 under 35 USC 102(e) as being anticipated by Fiske. The cited Fisk (col. 4, lines 10-34) discusses reverting back to a backup copy of a program or to stay at the current revision. Nowhere, does the cited Fisk teach or disclose the claim requirement of designating one code image as non-operational if the first counter is a first value and the second counter is a second value, wherein one other code image not designated as non-operational is selected to execute. The cited Fisk discusses setting the flags and counters of in the operating system space after reboot, whereas the claims require designating the code image during reboot.

For the above reasons, claims 2, 19, 36 are patentable over the cited Fiske because the cited combination does not teach or disclose all the claim limitations.

Claims 3, 20, 37

Claim 3 depends on claim 2 and further requires that the first value is greater than zero and the second value is zero.

The Examiner has rejected claim 3 under 35 USC 102(e) as being anticipated by Fiske. The cite Fiske (col. 4: lines 10-34) discusses setting flags and counters, but the flags and counters of the cited Fiske are set in the operating system space after reboot, whereas the claims require setting the first and second values during reboot that the cited Fiske neither teach nor disclose.

For the above reasons, claims 3, 20, and 37 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim limitations

Claims 4, 21, 38

Claim 4 depends on claim 2 and further requires:
receiving an update to the code image;
determining whether one code image is designated as non-operational; and
overwriting the code image designated as non-operational with the received update to the code image if one code image is designated as non-operational.

The Examiner has rejected claim 4 under 35 USC 103(a) as being unpatentable over Fiske in view of Narayanaswamy. The cited Fiske does not teach or disclose overwriting the code image designated as non-operational with the received update to the code image if one code image is designated as non-operational. The cited Narayanaswamy discusses replacing the inactive boot code with new or upgraded boot code, where “the new boot code should not overwrite any part of the active boot code” (Narayanaswamy: col. 6: lines 7-8). Therefore, the cite Narayanaswamy discusses active and inactive boot codes which are different from operational and non-operational code images. Both the active boot code and the inactive boot code of Narayanaswamy can be designated as operational. Therefore, when Narayanaswamy discusses replacing the inactive boot code the inactive boot code is capable of being operational but is currently inactive.

Therefore, neither the cited Fiske nor the cited Narayanaswamy teach or suggest the claim requirement of overwriting the code image designated as non-operational with the received update to the code image if one code image is designated as non-operational.

For the above reasons, claims 4, 21, and 38 are patentable over the cited Fiske and Narayanaswamy because neither the cited Fiske nor the cited Narayanaswamy teach or suggest the claim requirements either alone or in combination.

Claims 5, 22, 39

Claim 4 depends on claim 5 and further comprises:

determining an earliest version of the code images in the memory device; and

overwriting the determined earliest version of the code image if one code image is not designated as non-operational.

The Examiner has rejected claim 4 under 35 USC 103(a) as being unpatentable over Fiske in view of Narayanaswamy. The cited Narayanaswamy (col. 6, lines 39-53) discusses replacing inactive boot code with a newer version of boot code. However, inactive boot code discussed in Narayanaswamy is different from the non-operational code image of the claim requirement. The inactive boot code discussed in Narayanaswamy is operational code image, i.e., the inactive boot code can function properly. Therefore, neither the cited Fiske nor the cited Narayanaswamy teach or suggest the claim requirement of determining an earliest version of the code images in the memory device, and overwriting the determined earliest version of the code image if one code image is not designated as non-operational.

For the above reasons, claims 5, 22, and 39 are patentable over the cited Fiske and Narayanaswamy because neither the cited Fiske nor the cited Narayanaswamy teach or suggest the claim requirements either alone or in combination.

Claims 7, 24, 41

Claim 7 depends on claim 1, and further requires that the first operation routine comprises a reboot routine and the second operation routine comprises an initialization routine.

The Examiner has rejected claim 7 under 35 USC 102(e) as being anticipated by Fiske. The cited Fiske (FIG. 2, col. 3: line 55 - col. 4, line 38) discusses rebooting followed by running the reboot driver. However, the reboot driver discussed in the cited Fiske is different from the initialization routine of the claim requirements.

For the above reasons, claims 7. 24. 41 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim requirements.

Claims 8, 25, 42

Claim 8 depends on claim 7, and further comprises:
incrementing the second counter if the initialization routine successfully completed;
rebooting if the initialization routine failed; and
performing another iteration of all previous steps after rebooting.

The Examiner has rejected independent claim 8 under 35 USC 102(e) as being anticipated by Fiske. The cited Fiske (FIG. 2, col. 3: line 55 - col. 4, line 38) discusses rebooting followed by running the reboot driver. However, the reboot driver discussed in the cited Fiske is different from the initialization routine of the claim requirements. Furthermore, nowhere does the cited Fiske teach or disclose the claim requirement of

For the above reasons, claims 7. 24. 41 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim requirement of performing another iteration of all previous steps after rebooting. The cited Fiske discusses reverting back to the backup copy in case of failure but does not teach or disclose the rebooting if the initialization routine failed and performing another iteration of all previous steps after rebooting. In the cited Fiske, if the second routine fails the monitor program reverts back to the backup copy of the program.

For the above reasons, claims 8, 25, 42 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim requirements.

Claims 9, 26, 43

Claim 9 depends on claim 7 and further comprises:

selecting one copy of the code image, wherein the executed initialization routine is a component of the selected code image, wherein the selected code image is designated as non-operational if the first counter is the first value and the second counter is the second value; and

selecting one other copy of the code image if the selected code image is designated as non-operational.

The Examiner has rejected claim 9 under 35 USC 102(e) as being anticipated by Fiske. Nowhere does the cited Fiske teach or disclose the claim requirement that the executed initialization routine is a component of the selected code image. In Fiske, the reboot driver is an application is an external application driver which is part of the operating system which functions in the operating system space. Therefore, the reboot driver of the cited Fiske cannot be a component of the selected code image.

For the above reasons, claims 9, 26, and 43 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim requirements.

Claims 11, 28, 45

Claim 11 depends from claim 1, wherein the first operation routine comprises a reboot routine and the second operation routine comprises an initialization routine, and wherein the code images include a function routine to perform an operation after initialization, further comprising:

executing the function routine in one code image;

incrementing a third counter associated with the code image including the executed function routine if the function routine succeeded; and

using the third counter, in addition to the first and second counters, to select one of the multiple copies of the code image from the memory device to execute.

The Examiner has rejected claim 11 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman. The cited Goldman (col. 8, lines 11-18) discusses keeping an image that running properly and changing status of images.

The claims require the code images to include the function routine. Nowhere does the cited Goldman or the cited Fiske teach or suggest the claim requirement of the code images to include the function routine. In the cited Goldman the external system tests the images. Furthermore, nowhere does the cited Goldman teach or suggest incrementing and using third counters in addition to the first and second counters as required by the claims.

For the above reasons, claims 11, 28, 45 are patentable over the cited Fiske and Goldman because neither the cited Fiske nor the cited Goldman teach or suggest the claim requirements either alone or in combination.

Claims 12, 29, 46

Claim 12 depends on claim 11 and further comprises:

designating one code image as operational if the first, second, and third counters satisfy at least one threshold value, wherein the code image designated as operational is automatically selected from the memory device to execute after subsequent reboot operations.

The Examiner has rejected claim 12 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman. The cited Goldman (col. 8, lines 11-18) discusses keeping an image that running properly and changing status of images.

Nowhere does the cited Fiske or the cited Goldman teach or suggest the claim requirement of designating one code image as operational if the first, second, and third counters satisfy at least one threshold.

For the above reasons, claims 12, 29, and 46 are patentable over the cited Fiske and Goldman because neither the cited Fiske nor the cited Goldman teach or suggest the claim requirements either alone or in combination.

Claims 13, 30, 47

Claim 13 depends on claim 11 and further comprises:

designating one code image as non-operational if the first, second, and third counters satisfy at least one threshold value, wherein one other code image not designated as non-operational is selected from the memory device and executed.

The Examiner has rejected claim 13 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman. The cited Goldman (col. 8, lines 11-18) discusses keeping an image that running properly and changing status of images.

Nowhere does the cited Fiske or the cited Goldman teach or suggest the claim requirement of designating one code image as non-operational if the first, second, and third counters satisfy at least one threshold value.

For the above reasons, claims 13, 30, 47 are patentable over the cited Fiske and Goldman because neither the cited Fiske nor the cited Goldman teach or suggest the claim requirements either alone or in combination.

Claims 15, 32, 49

Claim 15 depends on claim 13 and further comprises:

incrementing the second counter if the initialization routine successfully completed; rebooting if the initialization or function routine failed; and performing another iteration of all previous steps after rebooting.

The Examiner has rejected claim 15 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman. The cited Goldman (col. 8, lines 11-18) discusses keeping an image that running properly and changing status of images.

Nowhere does the cited Fiske or the cited Goldman teach or suggest the claim requirement of incrementing, rebooting, and performing another iteration of all previous steps (where the previous steps include the steps of the base and intervening claims on which claim 15 is dependent).

For the above reasons, claims 15, 32, 49 are patentable over the cited Fiske and Goldman because neither the cited Fiske nor the cited Goldman teach or suggest the claim requirements either alone or in combination.

Claims 16, 33, 50

Claim 16 depends on claim 11, wherein the code image includes multiple function routines, wherein there is one counter for each of the multiple function routines, and further comprises:

designating one code image as operational if the first counter, second counter, and each counter associated with a function routine satisfy at least one threshold value, wherein the code image designated as operational is automatically selected from the memory device to execute after subsequent reboot operations.

The Examiner has rejected claim 16 under 35 USC 103(a) as being unpatentable over Fiske in view of Goldman. The cited Goldman (col. 8, lines 11-18) discusses keeping an image that running properly and changing status of images.

Nowhere does the cited Fiske or the cited Goldman teach or suggest the claim requirement of designating one code image as operational if the first counter, second counter, and each counter associated with a function routine satisfy at least one threshold value, wherein the code image designated as operational is automatically selected from the memory device to execute after subsequent reboot operations.

For the above reasons, claims 16, 33, 50 are patentable over the cited Fiske and Goldman because neither the cited Fiske nor the cited Goldman teach or suggest the claim requirements either alone or in combination.

Claims 17, 34, 51

Claim 17 depends on claim 1, wherein one operation routine comprises one of a reboot routine, an initialization routine or a function routine to perform a device specific operation.

The Examiner has rejected claim 17 under 35 USC 102(e) as being anticipated by Fiske. The cited Fiske (FIG. 2, col. 3: line 55 - col. 4, line 38) discusses rebooting followed by running the reboot driver. Nowhere does the cited Fiske teach or disclose the claim requirement that the one operation routine comprises one of a reboot routine, an initialization routine or a function routine to perform a device specific operation.

For the above reasons, claims 17, 34, 51 are patentable over the cited Fiske because the cited Fiske does not teach or disclose all the claim requirements.

New Claims 52-63

The requirements of new claims 52-63 may be found in at least FIGs. 1-5 and pages 4-14 of the specification.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-63 are patentable over the art of record. Applicants have added twelve new dependent claims and indicated appropriate fees. Nonetheless, should any additional fees be required, please charge Deposit Account No. 50-0585.

The attorney of record invites the Examiner to contact him at (310) 557-2292 if the Examiner believes such contact would advance the prosecution of the case.

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